

**IN THE DRAWINGS**

Please amend Figures 1 and 3 as shown in the attached Replacement Drawing Sheets.

**ATTACHMENT: 2 Replacement Drawing Sheets**

**Remarks**

Claims 1-22 are pending in the application.

The drawings are objected to for various informalities.

The specification is objected to for various informalities.

The claims are objected to for various informalities.

Claims 12-20 are rejected under 35 U.S.C. 112, ¶2.

Claims 1-5, 11-15 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lor et al. (Lor) U.S. Patent Publication No. 2004/0068668 A1, in view of Zargham et al. (Zargham) (U.S. Patent Publication No. 2003/0229613 A1).

Claims 6 and 16 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent

form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the elements of those claims on which it formerly depended or whether an independent claim has been rewritten to include the elements of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

#### **Claim Amendments**

Applicants have herein amended claims 1, 11 – 20, and 22 to correct typographical errors. No new matter has been entered.

#### **Specification Amendments**

Applicants have herein amended the originally-filed specification to correct typographical errors. No new matter has been entered.

#### **Drawing Amendments**

Applicants have herein amended Figures 1 and 3. No new matter has been entered.

#### **Drawing Objections**

The drawings are objected to for various informalities.

Figure 1 is objected to for failing to include a "Prior Art" designator. Applicants have herein amended Figure 1 to include a "Prior Art" designator. A replacement drawing sheet for Figure 1 is provided herewith.

Figures 5 and 9 are objected to because reference numerals 599 and 999 included in Figures 5 and 9, respectively, are not mentioned in the specification. Applicants have herein amended the specification to correct typographical errors. More specifically,

Applicants have herein amended the specification to change “518” to “599” and to include a statement indicating that method 900 ends at step 999.

Figures 3 and 5 are objected to for failing to show reference numerals 301 and 518, respectively, which are included in the specification. Applicants have herein amended Figure 3 to include reference numeral 301. A replacement sheet for Figure 3 is provided herewith. Applicants have herein amended the specification to change “518” to “599” for Figure 5.

The Examiner is respectfully requested to withdraw the objections.

#### **Specification Objections**

The specification is objected to for various informalities.

The Examiner has objected to inclusion of line numbers in the Abstract. Applicants respectfully note that the line numbers do not form part of the Abstract. Rather, the line numbers are presented in the margin to facilitate reference to particular portions of the Abstract, when necessary. Thus, the Examiner’s objection with respect to the line numbers is moot.

The Examiner has requested that the Applicants define the acronym “IP”. Applicants have herein amended the Abstract of the Invention section to define the acronym “IP”, as requested by the Examiner. Thus, the Examiner’s objection with respect to the acronym has been overcome.

The Examiner is respectfully requested to withdraw the objections.

#### **Claims Objections**

The claims are objected to for various informalities.

Applicants have herein amended claims 1, 11, and 22 to correct typographical errors identified by the Examiner.

The Examiner is respectfully requested to withdraw the objections.

#### **Rejection Under 35 U.S.C. 112**

Claims 12-20 are rejected under 35 U.S.C. 112, ¶2.

Applicants have herein amended claims 12 – 20 to correct typographical errors identified by the Examiner.

Therefore, Applicants' claims 12-20 are allowable under 35 U.S.C. 112. The Examiner is respectfully requested to withdraw the rejection.

**Rejection Under 35 U.S.C. 103**

Claims 1-5, 11-15 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lor in view of Zargham. The rejection is traversed.

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. The key to supporting a rejection under 35 U.S.C. §103 is the clear articulation of the reasons why the claimed invention would have been obvious. The analysis supporting such a rejection must be explicit. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006), cited with approval in *KSR Int'l Co. v. Teleflex, Inc.*, 126 S. Ct. 2965 (2006); see also MPEP §2141.

According to MPEP §2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art" (*quoting, In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). In addition, to establish a prima facie case of obviousness the prior art reference (or references when combined) must

teach or suggest all elements of the subject claim. *In re Wada*, 2007-3733 (BPAI Jan. 14, 2008) (citing, *CMFT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed.Cir. 2003)).

The Office Action failed to establish a *prima facie* case of obviousness, because the combination of Lor and Zargham fails to teach or suggest all the claim elements.

Namely, Lor and Zargham, alone or in combination, fail to teach or suggest at least the limitations of “selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C_C^l$ ) from said MAP to said CPE, and a cost ( $C_v^l$ ) of provisioning an IPSG node,” as claimed in Applicants’ claim 1.

Lor discloses a process of controlling data flow in a wireless network providing wireless access to the wireless network by wireless devices.

Lor, however, fails to teach or suggest at least the limitations of “selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C_C^l$ ) from said MAP to said CPE, and a cost ( $C_v^l$ ) of provisioning an IPSG node,” as claimed in Applicants’ claim 1.

In the Office Action, the Examiner admits that Lor fails to teach or suggest the limitations of “wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C_C^l$ ) from said MAP to said CPE, and a cost ( $C_v^l$ ) of provisioning an IPSG node,” as claimed in Applicants’ claim 1.

Applicants submit that Lor also fails to teach or suggest the limitation of “selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs,” as claimed in Applicants’ claim 1.

In the Office Action, the Examiner cites specific portions of Lor (namely, Para. 0031, 0105-0106, and 0113-0117), asserting that the cited portions of Lor disclose the limitation of “selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs,” as claimed in Applicants’ claim 1. Applicants respectfully disagree.

The first portion of Lor (Para. 0031) cited by the Examiner merely states that LAN switches may perform load balancing. This portion of Lor is devoid of any teaching or suggestion of selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, as claimed in Applicants’ claim 1.

The second portion of Lor (Para. 0105-0106) cited by the Examiner merely describes the manner in which load balancing may be performed on access points (APs). This portion of Lor is devoid of any teaching or suggestion of selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, as claimed in Applicants’ claim 1. Furthermore, Applicants note that, in the Office Action, the Examiner asserts that the APs of Lor disclose the MAPs of Applicants’ claim 1. The Examiner then attempts to cite a portion of Lor describing load balancing on the APs as support for a conclusion that Lor discloses selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs. In other words, the Examiner impermissibly attempts to equate the APs of Lor with both the MAPs and the IPSGs of Applicants’ claim 1. Thus, the Examiner’s reliance on this portion of Lor as support for a conclusion that Lor discloses selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs is improper.

The third portion of Lor (Para. 0113-0117) cited by the Examiner merely describes additional details regarding load balancing performed by LAN switches and load balancing performed by APs. As noted hereinabove with respect to the first and second portions of Lor cited by the Examiner, these teachings of Lor are devoid of any teaching or suggestion of selecting a subset of IPSGs to maximize total profit resulting

from provisioning a subset of VPN customers on the selected IPSGs, as claimed in Applicants' claim 1.

Thus, at least for these reasons, Lor is devoid of any teaching or suggestion of selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, as claimed in Applicants' claim 1.

Furthermore, Zargham fails to bridge the substantial gap between Lor and Applicants' claim 1.

Zargham fails to teach or suggest at least the limitations of "selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C^l_C$ ) from said MAP to said CPE, and a cost ( $C^l_v$ ) of provisioning an IPSG node," as claimed in Applicants' claim 1.

Rather, Zargham merely discloses a method for managing the interconnect traffic of a carrier across a telecommunications network, including receiving cost and routing rules from the carrier, gathering performance data corresponding to the interconnect traffic, and applying the cost and routing rules to the performance data to determine a first impact on the interconnect traffic, receiving superseding routing rules from the carrier, automatically calculating proposed changes in network routing based on the superseding routing rules and the first impact, and presenting the proposed changes to the carrier. (Zargham, Abstract).

Zargham is devoid of any teaching or suggestion selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, as claimed in Applicants' claim 1.

Zargham also is devoid of any teaching or suggestion of the limitation of "where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ )," as claimed in Applicants' claim 1. The portion of Zargham cited by the Examiner for this limitation merely states that "the present invention manages traffic, revenues, and costs, to help carriers maximize revenues, reduce network costs, optimize network routing, and



increase overall profitability and service quality.” (Zargham, Para. 0015). The portion of Zargham cited by the Examiner for this limitation is devoid of any teaching or suggestion of any weighted revenue.

Zargham also is devoid of any teaching or suggestion of the limitation of “wherein said cost per customer comprises a total tunnel bandwidth cost ( $C_C^l$ ) from said MAP to said CPE, and a cost ( $C_V^l$ ) of provisioning an IPSG node,” as claimed in Applicants’ claim 1. The portions of Zargham cited by the Examiner for this limitation merely include general statements indicating that information on costs, revenues, traffic trends, bandwidth usage, and routing information may be aggregated, and that business criteria such as quality of service, profit margin, bilateral agreements, available capacity, network looping, inter-carrier looping, and minimum/maximum selected routes may be used. The portions of Zargham cited by the Examiner are devoid of any teaching or suggestion of a total tunnel bandwidth cost ( $C_C^l$ ) from a MAP to a CPE or a cost of provisioning an IPSG node.

Thus, at least for these reasons, Zargham fails to teach or suggest at least the limitations of “selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C_C^l$ ) from said MAP to said CPE, and a cost ( $C_V^l$ ) of provisioning an IPSG node,” as claimed in Applicants’ claim 1.

As such, since Lor and Zargham each fail to teach or suggest the imitations of “selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^l$ ) equals weighted revenue ( $\gamma V^l$ ) less cost ( $C^l$ ), ( $U^l = \gamma V^l - C^l$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C_C^l$ ) from said MAP to said CPE, and a cost ( $C_V^l$ ) of provisioning an IPSG node,” a combination of Lor and Zargham (assuming such combination is even possible) must fail to teach or suggest the limitations of

“selecting a subset of IPSGs to maximize total profit resulting from provisioning a subset of VPN customers on the selected IPSGs, wherein said total profit from all the customers comprises the sum of profits from each customer ( $I$ ), where for each customer profit ( $U^i$ ) equals weighted revenue ( $\gamma V^i$ ) less cost ( $C^i$ ), ( $U^i = \gamma V^i - C^i$ ), wherein said cost per customer comprises a total tunnel bandwidth cost ( $C^i_C$ ) from said MAP to said CPE, and a cost ( $C^i_V$ ) of provisioning an IPSG node,” as claimed in Applicants’ claim 1.

As such, independent claim 1 is allowable under 35 U.S.C. 102(b) over Lor in view of Zargham. Independent claims 11 and 22 recite relevant elements similar to those recited in independent claim 1 and, as such, and at least for the same reasons as discussed above, independent claims 11 and 22 also are allowable under 35 U.S.C. 103(a) over Lor in view of Zargham. Furthermore, since all of the dependent claims that depend from the independent claims include all the elements of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable under 35 U.S.C. 103(a) over Lor in view of Zargham.

Therefore, Applicants’ claims 1-5, 11-5 and 21-22 are allowable over under 35 U.S.C. 103(a) over Lor in view of Zargham. The Examiner is respectfully requested to withdraw the rejection.

#### **Allowable Subject Matter**

Claims 6 and 16 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants thank the Examiner for indicating allowability with respect to claims 6 and 16. For the reasons set forth above, Applicants submit that the independent base claims are allowable and, as such, dependent claims 6 and 16 are also allowable. The Examiner is respectfully requested to withdraw the rejection.

**Conclusion**

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, he is invited to call Eamon J. Wall at 732-842-8110 x120 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

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